

AI could
embodiment, an ohmic contact 4,5 is then formed on the anti-phase layer 30. The optical thickness of the anti-phase layer 30 is preferably chosen so that the reflection from the ohmic contact is out of phase with the second semiconductor mirror. This feature suppresses lasing underneath the ohmic contact while allowing standard ohmic contact materials such as gold or gold-beryllium alloys to be used. In addition, if ohmic aperture 32 is kept reasonably small, on the order of about seven microns, the excessive loss at the perimeter substantially prevents lasing in the material under the ohmic contacts, thereby suppressing higher order modes and ensuring single-mode operation.

In the Claims:

Please amend claims 1, 2, 8, 13, 14, 17 and 20, and add new claims 21-43.

- A2 could*
1. (Amended) A vertical cavity surface emitting laser comprising:
- a first mirror formed adjacent to a substrate;
 - an active region formed adjacent to said first mirror;
 - a hybrid mirror formed adjacent to said active region comprising,
 - semiconductor mirror layers,
 - an anti-phase layer deposited on said semiconductor mirror layers,
 - a dielectric mirror layers deposited on said anti-phase layer; and
 - a reflector formed on said anti-phase layer, within said hybrid mirror, wherein reflections from said reflector are substantially out of phase with reflections from said semiconductor mirror layers to provide mode selective optical loss in order to suppress higher order modes.